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| 09/533,613      | 03/22/2000  | Fred E. Stanke       | 21964-708           | 7897             |

7590

08/14/2002

MICHAEL A STALLMAN  
STALLMAN & POLLOCK LLP  
121 SPEAR STREET  
SUITE 290  
SAN FRANCISCO, CA 94105

EXAMINER

PHAM, HOA Q

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/533,613

Applicant(s)

STANKE ET AL.

Examiner

Hoa Q. Pham

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2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1, 5 and 10-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. New power of attorney letter has been received.
2. The election filed on 7/15/02 by attorney Kenta Suzue is withdrawn. Claims 1-21 are pending.
3. Applicant's election without traverse of Group II (claims 2-4 and 6-9) in Paper No. 11 is acknowledged. Claims Applicant is noted that one-month extension of time will be charged.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "optical elements include curved reflective surfaces" in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities:
  - a. Page 23, lines 3 and 6, what does applicant mean by "Fig 27". "Figure 27" is not disclosed in this application.

b. Claim 7, line 1, the terms "metrology unit" should be changed to –metrology station--.

These are some examples, applicant is required to correct all of the minor informalities such as typos, grammars, inconsistent use of terms (and/or numerals).

***Claim Rejections - 35 USC § 112***

6. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is incomplete and not understood by the phrase "optical elements include curved substantially reflective surfaces". What types of the optical elements does applicant mean here? How these elements are relative to the "light source" and the "measurement region" in claim 2?

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 2, 4, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kodera et al (5,695,601).

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Regarding claims 2 and 4, Koder et al discloses a wafer processing station (20) and a metrology station (30) apart from but coupled to the processing station wherein the metrology station comprises an ultraviolet light source (column 3, lines 30-37) illuminating a measurement region of a surface of a work-piece (10). See figure 3).

Regarding claims 6 and 9, Koder et al shows the measurement region is wetted by supplying slurry (24) (column 4 lines 49-60).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koder et al in view of Ledger (5,291,269).

Regarding claim 3, Koder et al does not explicitly teach that at least one spectrograph optically coupled to the measurement region of the surface. However, such a feature is known in the art, for example, as taught by Ledger. Ledger, from the same field of endeavor, teaches that using a grating or prism spectrograph to measure the surface spectral reflectance at each point on the surface is well known in the art. Thus, for the purpose of measuring the thickness at different points on a thin film layer on the surface of a wafer, it would have been obvious to include in Koder et al a grating or prism spectrograph as mentioned by Ledger.

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Regarding claim 7, as understood by Examiner, the optical elements that include curved reflective surfaces could be a parabolic reflector (92) as shown in figure 10 of Ledger. Those of ordinary skill in the art at the time the invention was made to include in Kodera et al a plurality of reflectors for the purpose of guiding light beam to the surface to be measured. Such a modification is generally recognized as being within the level of ordinary skill in the art.

Regarding claim 8, see column 4, lines 49-60, for wetting the surface of a wafer.

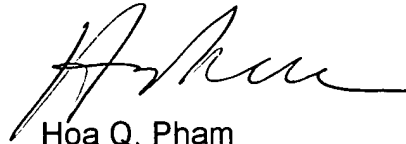
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references are relative to the present invention: Marchese-Ragona et al (6,157,450), Greenberg et al (5,042,949), Biegen (4,869,593), Wang (5,948,203), and Okumura et al (5,616,063).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Hoa Q. Pham', written in a cursive style.

Hoa Q. Pham  
Primary Examiner  
Art Unit 2877

HP  
August 10, 2002